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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,392	10/28/2003	Arie Glazer	Q77903	9177

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EXAMINER	
ALANKO, ANITA KAREN	
ART UNIT	**PAPER NUMBER**
1765	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/694,392	GLAZER ET AL.	
	Examiner	Art Unit	
	Anita K. Alanko	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/28/05 election*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *56-79 and 111-137* is/are pending in the application.

4a) Of the above claim(s) *79,117-125 and 137* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *56-78,111-116 and 126-136* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/26/03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/24/04;10/29/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

Claims 79, 117-125 and 137 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/28/05.

Claim Rejections - 35 USC § 112

Claims 56-78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 56, line 5, the phrase "to induce a reaction between said dopant and said conductive film" is unclear. What is the reaction? Is it dopant drive-in or ion implantation, or does it include something else? Is the film conductive or semiconductive? It appears from the specification, that the dopant is driven into a semiconductive film to make a conductive area, not that the film is conductive before doping. Therefore, for the purposes of the rejection, claim 56 is treated as citing a "semiconductive" film instead of a "conductive" film.

Claims 57-78 fail to cure the indefiniteness of their base claim, and are therefore also rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 56-63, 66, 69-70, 72-75, 77-78, 111-113, 115-116, 126-136 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang (US 5,938,839).

Zhang discloses a method of fabricating thin film transistors, comprising:

forming at least one semiconductive film 113 on a substrate 111 (Fig.5, col.11, lines 19+);

immersing said substrate in a dopant (col.12, lines 59-60; col.13, lines 1-6); and

delivering a laser beam 123 (apparatus shown in Fig.9) to a plurality of independently selectable locations (openings in mask 114,115) on said substrate to induce a reaction between said dopant and said semiconductive film at said independently selectable locations 131,133 (Fig.7-8).

Further, as to claims 63, 75 and 111, Zhang discloses in a different embodiment (Fig.1) that instead of using a mask on the substrate, that the mask 16 (with mask pattern 10) may be separated (col.7, lines 64-65) from the substrate to form a plurality of sub-beams (the pattern in the laser beam, col.8, lines 12-13), locations of which are selectable by relatively moving the mask and the substrate (by XYZ stage 14). As broadly interpreted, the locations are independently selectable since the mask openings (presumably formed by photolithography) are also independently selectable- they are selected to form the desired pattern on the substrate, either N- or P- type regions that are isolated from one another.

As to claims 69-70, as broadly interpreted, the mask 16 modulates the energy characteristic of the laser beam. Also, Zhang discloses that arrays (and each TFT comprises

different doping types) are fabricated, thus different locations have first and second modulated energy characteristics (col.13, lines 53-64).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 64-65 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (US 5,938,839) in view of Downey (US 2003/0194509 A1).

The discussion of Zhang from above is repeated here.

As to claims 64 and 76, Zhang does not disclose to scan the laser beam. Downey teaches that a useful alternative for translating the stage is to scan the laser beam 310 (see paragraph [0036]). It would have been obvious to one with ordinary skill in the art to scan the laser in the

method of Zhang because Downey teaches that this is a useful alternative technique for delivering a laser to a substrate compared to merely translating the stage.

As to claim 65, Zhang discloses that the laser beam is patterned by mask 16, thus the beamlets are delivered exclusively to the selectable locations.

Claims 71 and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (US 5,938,839).

The discussion of Zhang from above is repeated here.

As to claims 71 and 114, Zhang does not disclose the pulse repetition rate. However, since the same steps are performed with the same results of doping to form the same device as in the instant invention, the characteristics of the laser are expected to be similar to that of the instant invention. Examiner takes official notice that one skilled in the art of lasers knows that the pulse repetition rate affects the efficacy of the laser. Thus, the pulse repetition rate appears to reflect a result effective variable. It would have been obvious to one with ordinary skill in the art to use the cited pulse repetition rate in the method of Zhang because the thickness appears to reflect a result-effective variable which can be optimized. See MPEP 2144.05 IIB.

Claims 56-78, 111-116 and 126-136 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Zhang (US 5,938,839) and Gross et al (WO 03/017344 A1).

The discussion of Zhang from above is repeated here. As to claims 67-68, Zhang fails to disclose that the laser beam is delivered to locations that vary in size and spacing. Gross teaches

that a useful method for delivering a laser beam [0049]-[0050], [0065] to a substrate includes varying the size and spacing [0047]-[0048]. It would have been obvious to one with ordinary skill in the art to deliver a laser as taught by Gross in the method of Zhang because Gross teaches that to do so is useful for forming devices that have different sizes and spacings. The method of Zhang modified by Gross thus teaches all of the limitations about the laser cited in claims 56-78, 111-116 and 126-136.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art shows methods of using a laser to crystallize or dope a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765